

## Research-based Instructional Strategies Marzano's Nine High Yield Strategies

Instructional Strategies for Improving Student Achievement: Best Practice, Brain research, and Teaching Tactics (see also Marzano et al., 2001)			
Strategy	Percentile Gain	How the Brain Works	Strategies
Comparing, contrasting, classifying, analogies, and metaphors	45%	The brain seeks patterns, connections, and relationships between and among prior and new learning.	<ul style="list-style-type: none"> <li>• Classifying</li> <li>• Compare, contrast</li> <li>• Venn diagrams</li> <li>• Synectics</li> <li>• Concept attainment</li> <li>• Concept formation</li> </ul>
Summarizing and note taking	34%	The brain pays attention to meaningful information and deletes that which is not relevant.	<ul style="list-style-type: none"> <li>• Mind maps</li> <li>• Word webs</li> <li>• Jigsaw</li> <li>• Reciprocal</li> </ul>
Reinforcing effort and providing recognition	29%	The brain responds to challenge and not threat. Emotions enhance learning.	<ul style="list-style-type: none"> <li>• Stories of determination</li> <li>• Celebrate successes</li> </ul>
Assigning homework and practice	28%	If you don't use it, you lose it. Practice and rehearsal make learning "stick."	<ul style="list-style-type: none"> <li>• Create challenges in a variety of ways</li> </ul>
Generating non-linguistic representations	27%	The brain is a parallel processor. Visual stimuli are recalled with 90% accuracy.	<ul style="list-style-type: none"> <li>• Mind maps</li> <li>• Graphic organizers</li> <li>• models</li> </ul>
Using cooperative learning	27%	The brain is social. Collaboration facilitates understanding and higher-order thinking.	<ul style="list-style-type: none"> <li>• Think-Pair-Share</li> <li>• Jigsaw</li> <li>• P.I.G.S.F.</li> </ul>
Setting Objectives and providing feedback	23%	The brain responds to high challenge and continues to strive based on feedback.	<ul style="list-style-type: none"> <li>• Helpful feedback</li> <li>• Rubrics</li> <li>• Criteria</li> <li>• Expectations</li> </ul>
Generating and testing hypotheses	23%	The brain is curious and has an innate need to make meaning through patterns.	<ul style="list-style-type: none"> <li>• Problem-based inquiry</li> <li>• Portfolios</li> <li>• Case studies</li> </ul>
Providing questions, cues, and advance organizers	22%	The brain responds to wholes and parts. All learners need to open "mental files" into which new learning can be "hooked."	<ul style="list-style-type: none"> <li>• Wait time</li> <li>• Questioning techniques</li> <li>• Agenda maps</li> <li>• Advance organizers</li> <li>• Diagrams and charts</li> </ul>

From: Gregory H. Gayle and, Carolyn Chapman. *Differentiated Instructional Strategies: One Size Doesn't Fit All*. California: Corwin Press, 2007



### Strategies Supporting Differentiation

Several key elements guide differentiation in the classroom. Tomlinson (2001) identifies three elements of the curriculum that can be differentiated: content, process and products. Several examples of strategies supporting differentiation are outlined below.

<b>Content</b> (providing multiple options for taking in information)	<b>Process</b> (providing multiple options for making sense of the ideas)	<b>Product</b> (providing multiple options for expressing what they know)
<p>Use a variety of resources; e.g., text, video, images, speakers</p> <p>Prepare glossary of new vocabulary before a reading assignment or lesson</p> <p>Provide materials at a variety of reading levels</p> <p>Provide an outline of content to be covered</p> <p>Relate new content to previously learned content</p> <p>Allow students a choice of topics</p> <p>Adjust vocabulary level for directions and assignments</p> <p>Allow students access to technology resources to support content</p> <p>Provide extension/enrichment opportunities</p> <p>Select reading material suited to students' interests</p> <p>Allow oral reading or taped readings of print material</p> <p>Provide models/examples of completed work for students to compare against</p> <p>Allow use of tools, such as calculators, word processors and spell checkers</p> <p>Use visual aids and manipulatives to make abstract concepts more concrete</p>	<p>Provide multisensory instruction; e.g., oral, visual, hands-on</p> <p>Provide whole-to-part and part-to-whole explanations</p> <p>Have students rephrase instructions orally</p> <p>Provide ample wait time and, if necessary, clues in answering questions</p> <p>Use motivational sets and demos to introduce as well as to reinforce</p> <p>Adjust the pace of instruction</p> <p>Break the lesson into manageable parts to allow students to catch up, if necessary</p> <p>Photocopy notes to allow students to listen rather than struggle to keep up copying</p> <p>Use graphic organizers</p> <p>Develop a consistent pattern to present material throughout the year</p> <p>Use models to help students visualize</p> <p>Provide mini workshops to re-teach or extend skills</p> <p>Provide a structure to follow for assignments and projects</p> <p>Use games to practise mastery of information and skills</p> <p>Summarize at the end of the lesson and allow questions from students</p>	<p>Produce one product in a group and quiz individuals orally about it</p> <p>Allow oral presentations to be taped rather than live</p> <p>Use learning journals, logs or diaries to track understanding</p> <p>Accept demonstrations, oral presentations and dramas as well as written work</p> <p>Allow students to demonstrate knowledge through models, pictures and diagrams</p> <p>Accept classroom discussion as part of a grade</p> <p>Use creative writing as a vehicle for presenting learning</p> <p>Provide a choice of tasks to complete on a particular topic</p> <p>Provide opportunities for students to contract for grades, based on products</p> <p>Use integrated projects as products for more than one subject area</p> <p>Allow students opportunities to work both individually and as part of a group</p>